REMARKS/ARGUMENTS

Entry of this response and reconsideration and allowance of the above-identified patent application are respectfully requested. Claims 61-91 were rejected in the office action. Claims 68, 82, and 83 have been canceled and claims 92-109 have been added. Claims 63, 64, 66, 67, 69, 70, 73, 75, 80, 81, 87, 88, 90 and 91 have been amended. Therefore, following entry of the present response, claims 61-67, 69-81 and 84-109 will be pending in the present application. The present amendment is filed concurrently with an RCE, and therefore entry of the present amendment is respectfully requested.

Claims 61-63, 67-70, 74-82, 84 and 89-90 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 3,656,112 to Paull ("Paull") in view of U.S. Pat. No. 6,452,482 to Cern ("Cern") and U.S. Pat. No. 4,070,572 to Summerhayes ("Summerhayes"). Claims 64-66, 83, 85 and 91 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Paull in view of Cern, Summerhayes and U.S. Pat. No. 4,142,178 to Whyte *et al.* ("Whyte"). Claims 71-73 and 86-88 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Paull in view of Cern, Summerhayes and U.S. Pat. No. 4,263,549 to Toppeto ("Toppeto").

Applicant would like to thank Examiner Lee for conducting an in-person interview with applicant's representative. Applicant and Examiner Lee discussed the disclosures of Paull, Cern, and Summerhayes in comparison with the claimed invention. The interview was helpful in facilitating and progressing the prosecution of the present application.

Applicant previously has submitted formal drawings. Applicant respectfully requests Examiner Lee to acknowledge the drawings as formal in the next office action.

Briefly, one embodiment (*e.g.*, claim 70) the present invention contemplates a device for communicating data signals over a power line, where the power line carries a voltage greater than one thousand volts. This particular embodiment comprises an inductive coupler communicatively coupled to the power line a modem communicatively coupled to the coupler, a fiber optic transceiver communicatively coupled to the modem, and a fiber optic cable communicatively coupled to the fiber optic transceiver, and configured to be communicatively coupled to a remote transceiver, where the remote transceiver is not communicatively coupled to a power line. Other claims claim different embodiments.

Applicant has amended independent claims 64, 67, 70 and 80 to make explicit that which already was implicit; namely, that the fiber optic cable is coupled to a remote transceiver, or that the transmission is to, and/or reception is from, a remote transceiver and that the remote transceiver is not communicatively coupled to a power line. Dependent claim 91 has been similarly amended. Claim 67 has been amended to substantially incorporate the elements found in claim 68, which has been canceled by this amendment. Claims 63, 66, 75 and 90 have been amended to be put in a form of an apparatus claim. Claim 81 has been amended to include a fiber optic transceiver. Claims 87 and 88 have been amended for clarity.

Claims 92, 95, 98, 101, 104 and 107 have been added to claim that communications over the power line comprises a wideband signal. Among other places in the present specification, support for this claim requirement can be found at page 7, lines 13-20. In addition, claims 93, 96, 99, 101, 105 and 108 have been added to recite that the wideband signal comprises at least one carrier frequency at or about fifty megahertz. Support for this claim element can be found at page 9, line 8. Finally, claims 94, 97, 100, 103, 106 and 109

have been added to recite that the wideband signal comprises an orthogonal frequency division multiplex (OFDM) signal, which is supported at page 7, lines 13-20 of the present specification and elsewhere.

Independent claim 61 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Paull in view of Cern and Summerhayes. Among other things, claim 61 contemplates a communication device comprising a data signal impedance coupled to the power line. Claim 61 also contemplates a coupler comprising a first port and a second port, where the first port is coupled to the power line on a first side of the data signal impedance and the second port of the coupler is coupled to the power line on the second side of the data signal impedance.

The office action relies on Paull for disclosure of "a data signal impedance (203) coupled to the power line; a coupler comprising a first port (207) coupled to the power line on a first side of the data impedance and a second port (204) coupled to the power line on the second side of the data impedance." (*Office Action dated June 2, 2004* at page 2).

Thus, the office action relies on Paull's coupling 207 for disclosure of a first port of a coupler, on coupling 204 for disclosure of a second port of a coupler, and on power transformer 203 for disclosure of a data signal impedance. In other words, the office action relies on Paull's discussion of a bypass device and power distribution transformer for disclosure of the claimed coupler.

Applicant respectfully submits that Paull fails to disclose the claimed coupler. First, the elements disclosed by Paull, and relied upon in the office action, quite simply are not a coupler. Instead, these elements in Paull include a bypass device and power transformer. Applicant submits that one skilled in the art would conclude that coupling 207 and coupling 204 are two separate and independent couplers.

Second, the coupler of the present invention has a first and second port coupled to the same power line. One example embodiment of the claimed coupler is shown in Figure 7 of applicants present specification. In contrast, Paull discloses coupling to a power line on each side of the power transformer 203. As is known in the art, the purpose of a transformer is to step down the voltage from a higher voltage to a lower voltage suitable for distribution to the customer premises. Thus, the couplings disclosed by Paull are coupled to different power lines (on either side of the transformer) having different voltages. Thus, Paull and the other references relied upon in the office action fail to disclose a coupler having a first port and a second port, where the first port is coupled to the power line on a first side of the data signal impedance and the second port of the coupler is coupled to the power line on the second side of the data signal impedance. Accordingly, applicant submits that claim 61, and claims 62-63 and 92-94, which depend therefrom, are in condition for allowance.

Claims 67-70, 74-82, 84 and 89-91 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Paull in view of Cern and Summerhayes. Similarly, claims 64-66, 83, 85 and 91 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Paull in view of Cern, Summerhayes and Whyte. Independent claims 64 and 70 are directed to a fiber optic transceiver and a fiber optic cable communicatively coupled to the transceiver and configured to be communicatively coupled to a remote transceiver, where the remote transceiver is not communicatively coupled to a power line. Similarly, independent claim 67 contemplates transmitting and receiving a data signal through a fiber optic cable to a remote transceiver, where the remote transceiver is not communicatively coupled to a power line. Independent claim 80 recites receiving a first data signal from a fiber optic cable coupled to a remote transceiver, where the remote transceiver is not communicatively coupled to a power line.

Therefore, as amended, these independent claims are directed to a fiber optic transceiver coupled to a fiber optic cable that is configured to be coupled to a remote transceiver (or transmitting to, or receiving from the remote transceiver), where the remote transceiver is not communicatively coupled to a power line.

In the rejection of independent claims 64, 70, 67 and 80, the office action states that it would have been obvious to one of ordinary skill in the art "that instead of a radio or acoustic link, an optical link such as a well known fiber optic cable link taught by Summerhayes can alternately be used as said transceiver communication medium in a system such as taught by Paull and Cern." (*Office Action dated June 2, 2004* at page 3).

Applicant respectfully submits that the references relied upon either alone or in combination fail to teach the claimed inventions. First, none of the references relied upon discloses a fiber optic transceiver. Summerhayes discloses a fiber optic transmitter for transmitting measurement data, but does not disclose a transceiver *(i.e.,* a device that can transmit and receive). The invention of Summerhayes is not related to power line communications and, therefore, bi-directional communications, and an associated transceiver are unnecessary and are not taught. Cern discloses an optical isolator for noise isolation, but does not disclose the claimed fiber optic transceiver. Therefore, none of the references relied upon disclose a fiber optic transceiver as claimed.

Second, as amended, these claims contemplate a fiber optic transceiver coupled to a fiber optic cable that is configured to be coupled to a remote transceiver or transmitt to, and/or receive from, a remote transceiver. Assuming, *arguendo,* that the transceivers of Paull could be replaced with fiber optic transceivers, the transceivers are not remote from each other as recited in the claims. Therefore, the references relied upon in the office action, both

alone and in combination, fail to teach or suggest communicating with a remote transceiver via a fiber optic cable as claimed.

Third, as amended, the claims recite that the remote transceiver is not communicatively coupled to a power line. The disclosure in Paull relied upon in the office action is simply a link for bypassing the power distribution transformer. Thus, both sides of the bypass link are communicatively coupled to a power line. Similarly, Cern discloses a transformer bypass device. In contrast, the claims, as amended, clearly recite that the remote transceiver to which the fiber optic cable is coupled is not communicatively coupled to a power line.

In summary, the prior art relied upon by the examiner fails to teach or suggest using a fiber optic transceiver to communicate with a remote transceiver that is not communicatively coupled to a power line. Consequently, applicant respectfully submits that claims 64, 70, 67 and 80 are now in condition for allowance. Similarly, claims 64-66 and 95-97, which depend from claim 67, claims 69 and 98-100, which depends from claim 67, claims 71-79 and 101-103, which depend from claim 70, and claims 104-106, which depend from claim 80 are also in condition for allowance.

As amended, claim 81 claims a data coupler that is communicatively coupled to the power line, a modem communicatively coupled to the coupler and configured to communicate over the power line, a power coupler configured to inductively couple power from the power signal carried by the power line, where power from the power coupler powers the modem, and a fiber optic transceiver is communicatively coupled to the modem.

As discussed above, none of the references relied upon discloses a fiber optic transceiver as recited in claim 81. In addition, none of the references relied upon teach or

suggest a power coupler configured to inductively couple power from the power signal carried by the power line, where power from the power coupler powers the modem configured to communicate over the power line and to which the transceiver is communicatively coupled. Summerhayes merely discloses powering a fiber optic transmitter, not a modem as recited in the claim. In addition, Summerhayes and the other references relied upon, alone or in combination, fail to teach or suggest inductively coupling power from the power line to power a modem (or any element) that is configured to communicate over the power line.

Accordingly, applicant respectfully submits that claim 81 and claims 84-91 and 107-109, which depend from claim 81, are now in condition for allowance.

CONCLUSION

In view of the foregoing, applicant respectfully submits that the claims are allowable and that the present application is in condition for allowance. Reconsideration of the application and an early Notice of Allowance are respectfully requested. In the event that the Examiner cannot allow the present application for any reason, the Examiner is encouraged to contact the undersigned attorney, Vincent J. Roccia at (215) 564-8946, to discuss resolution of any remaining issues.

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